

(b)

<b>Notice of Allowability</b>	<b>Application No.</b>	<b>Applicant(s)</b>
	10/064,621	ACHARYA ET AL.
	Examiner Allen C. Ho	Art Unit 2882

-- **The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1.  This communication is responsive to response filed on 02 June 2004.
2.  The allowed claim(s) is/are 1-22 and 24-29.
3.  The drawings filed on 22 December 2003 are accepted by the Examiner.
4.  Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a)  All
  - b)  Some\*
  - c)  None
  1.  Certified copies of the priority documents have been received.
  2.  Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3.  Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.  
**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

5.  A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
6.  CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.
  - (a)  including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached
    - 1)  hereto or 2)  to Paper No./Mail Date \_\_\_\_\_.
  - (b)  including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7.  DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

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| <ol style="list-style-type: none"> <li>1. <input type="checkbox"/> Notice of References Cited (PTO-892)</li> <li>2. <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948)</li> <li>3. <input type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),<br/>Paper No./Mail Date _____</li> <li>4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit<br/>of Biological Material</li> </ol> | <ol style="list-style-type: none"> <li>5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)</li> <li>6. <input type="checkbox"/> Interview Summary (PTO-413),<br/>Paper No./Mail Date _____.</li> <li>7. <input type="checkbox"/> Examiner's Amendment/Comment</li> <li>8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance</li> <li>9. <input type="checkbox"/> Other _____.</li> </ol> |
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**DETAILED ACTION**

***Allowable Subject Matter***

1. Claims 1-22 and 24-29 are allowed.
2. The following is an examiner's statement of reasons for allowance:

With respect to claims 1-18, 27, and 28, the prior art fails to teach or fairly suggest a method for plaque characterization comprising obtaining a first set of image data in response to a first x-ray energy level, the first set of image data contains hard tissue and soft tissue calcified plaque data, obtaining a second set of image data in response to a second x-ray energy level, the second set of image data contains the hard tissue calcified plaque data, and calculating a third set of image data by subtracting the second set of image data from the first set of image data, the third set of image data contains the soft tissue calcified plaque data as claimed.

With respect to claims 19 and 29, the prior art fails to teach or fairly suggest a method for plaque characterization comprising identifying soft plaque in the vessel in response to the image data and to the flow, plotting the distribution of the soft plaque, and determining the vulnerability of the soft plaque in response to the distribution as claimed.

With respect to claims 20-22 and 24-26, the prior art fails to teach or fairly suggest a system for plaque characterization comprising an imaging system generating a first set of image data and a second set of image data in response to a first x-ray energy level and a second x-ray energy level, the first set of image data contains hard tissue and soft tissue calcified plaque, the second set of image data contains the hard tissue calcified plaque, a processing device

calculating a third set of image data by subtracting the second set of image data from the first set of image data, the third set of image data contains the soft tissue calcified plaque data as claimed.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

### ***Response to Arguments***

3. Applicant's arguments filed 02 June 2004 with respect to objections of claims 1, 20, and 27 have been fully considered and are persuasive. The objections of claims 1, 20, and 27 have been withdrawn.
4. Applicant's arguments filed 02 June 2004 with respect to rejections of claims 1-22 and 24-29 have been fully considered and are persuasive. The rejections of claims 1-22 and 24-29 have been withdrawn.

The examiner agrees with the applicants that Tsutsui *et al.* and Merickel *et al.* failed to teach or fairly suggest identifying and characterizing hard tissue calcified plaque and soft tissue calcified plaque. Accordingly, the rejections of claims 1-22 and 24-29 have been withdrawn.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Allen C. Ho whose telephone number is (571) 272-2491. The examiner can normally be reached on Monday - Friday from 8:00 am - 5:00 pm.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward J. Glick can be reached at (571) 272-2490. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Allen C. Ho  
Patent Examiner  
Art Unit 2882

ACH



EDWARD J. GLICK  
SUPERVISORY PATENT EXAMINER